



Text of a Message Sent by the DCI to All Participants
in the CORONA Program on the Occasion of its Completion

26 May 1972

1. With the launch of the last CORONA system, an era comes to an end. As you are aware, this system is the progenitor of satellite photoreconnaissance systems. The program pioneered the development of panoramic, stereoscopic cameras for use in space and the capability to recover objects from earth orbit. Despite initial discouraging failures, persistence and dedication brought about success. Since 1960, more than one hundred missions have been flown signaling CORONA as the workhorse of photoreconnaissance systems. During this period, the system increased in mission duration from a one day, seventeen revolution orbit to current eighteen/nineteen day coverage. The resolution provided by the CORONA system improved from greater than twenty-five feet to less than seven feet. Further, its development and operation provided the basis and confidence for the development of increasingly sophisticated systems. It is interesting to recall some of the program's "firsts," among which were:

- a. First satellite reconnaissance system put into orbit.
- b. First object recovered from space.
- c. First use of panoramic and stereoscopic cameras in space flight.
- d. First dual bucket reconnaissance system.
- e. First satellite system to employ stellar index and panoramic cameras in combination.

2. The above testifies to the technical achievements made during more than a decade, and all of you may be justly proud of the part you played in these accomplishments. Although one can calculate the manhours and dollars devoted to developing and operating the system, it is not possible to

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NRO review(s) completed

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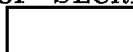
derive in finite terms the vital impact the system has had on our national security. It is clear, however, that crucial intelligence has been collected throughout the years against targets of the highest national interest which, until very recently, could not have been collected by other means. I want to extend to all of you my deep appreciation for the part you played in the success of this truly historic intelligence collection program.

(Signed)

Richard Helms

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FOREWORD

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Following is a Motion Picture Script Treatment. It is intended to convey an approach and general content for a film rather than specific details. For example, the Director (DCI) has already recorded the opening sequence in somewhat different words than those in the treatment which served as an earlier working paper for the Director's speech writer.

The Treatment is in narrative form rather than in script form which will come as the next stage of development after more research and discussion. The narration ideas submitted in the treatment should not be considered as the final copy for narration inasmuch as a few words in the Treatment may be expanded to paragraphs in the fuller development. The narration ideas at this stage are made largely as excerpts from the CORONA working papers provided.

The film called for in the treatment might be described as an historical documentary made up of historical photographs, footage and some re-enactments. Of course, the end product must be historically accurate and should be reviewed carefully in those aspects. In many instances, of course, we do not yet know what stock footage is available so these may be changed considerably as opportunities present themselves.

The film will utilize music, sound effects and a professional narrator in order to give it sufficient production value for release publically at some time in the future (at such time that it may be declassified). The film will be produced to the highest quality possible in keeping with the importance of it as a historical document.

Your film begins.

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1.0 CLASSIFICATION TITLES

"CORONA"

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There is no modulation over Classification Titles.

2.0 INTRODUCTION

- 2.1 The film begins with frame filled with the CIA Seal. On cue the camera pulls back to reveal that the seal is attached to a speaker's stand on podium at NPIC. As the camera pulls back we see the Director of Central Intelligence take his place at the stand. There are closer cuts of the Director and members of an attentive audience.

The first thing heard is the voice of Carl Duckett, DD/S&T, introducing the Director, ". . .the Director of Central Intelligence, Mr. Richard Helms. (applause)

The Director begins by saying, "Let's think back to a Point in Time. . . to October 24, 1957. On that date the President's Board of Consultants on Foreign Intelligence Activities submitted its report to President Eisenhower on the status of the Intelligence Community's collection capabilities. With strong urging from Dr. Edwin Land, the Board called for a re-assessment of the Air Force's WS117L Satellite Reconnaissance System then under development and CIA's proposed new high performance A-12 reconnaissance aircraft. The Board held that while both WS117L and the A-12 were promising programs, the critical need for intelligence at that Point in Time warranted an interim photoreconnaissance system.

It was a significant decision, particularly at that time. Just 20 days before, the Soviet Union had orbited Sputnik I from the Tyuratam Range. The Space Age had begun. The United States was still three and one half months away from successfully launching our first small satellite even though we had just the day before tested a Vanguard vehicle. Already, the Senate Preparedness Sub-committee had initiated investigation into the 'missile lag'.

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- 2.2 The film dissolves to historical footage from the fall of 1957. We see headlines in the paper referring to Soviet achievements, a concerned President Eisenhower and other historical footage throwing light on the mood of the times.

The Director's voice continues, "But here with so little hope for early success was the Board calling for development of the proposed WS-117L satellite to collect intelligence by photographic, electronic [] means. The Executive Secretary of the National Security Council on 28 October notified the Secretary of Defense and the Director of Central Intelligence that the President had asked for a joint report on the status of the new system. It was a bold decision and virtually without precedent. By comparison it even over-shadowed the earlier U-2 decision."

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- 2.3 Now begins an interesting sequence of a U-2 mission, circa 1956. We see preparation for a mission, takeoff and air-to-air of the aircraft in flight.

"By the fall of 1957, the U-2 had already spent a year in service. It had never been intended as operational for more than a year or two. The operational life expectancy was based on the likelihood that the Soviets would soon track it successfully and with accurate tracking data in hand, bring pressures to discontinue the flights. As it turned out, the United States had misjudged the Soviet air surveillance network and their radars had acquired and tracked every flight from the first. The Soviets filed a protest and a standdown was ordered. After that overflights were made only sporadically although for three more years the U-2 ranged over much of the rest of the world."

- 2.4 The film dissolves to the Director continuing his remarks at NPIC. There is a re-establishing shot of the gathering at the ceremony and additional close-shots of the director.

"And so we set out on December 8, 1957 to build and develop what has become known as "CORONA". Its importance, in the perspective of today's time, was momentous. As you know,

on 1 May, 1960 Francis Gary Powers was shot

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down near Sverdlovsk. A few months later, on 19 August 1960, just 110 days after the downing of the last U-2 overflight of the Soviet Union, the first successful air catch was made near Hawaii of a capsule of exposed film ejected from a photographic reconnaissance satellite."

NOTE: At this point continue with whatever remarks Mr. Helms cares to make about the Corona program. He should end his remarks by saying that "CORONA was an important-- 'Point In Time'."

3.0 MAIN TITLES

- 3.1 The film fades into the main title which are bold, color letters over a deep space background and a model of a C satellite goes by. The title reads, "A POINT IN TIME" and then dissolves to a sub-title, "The Corona Story."

Music begins and carries the titles. It is music with a space mood but should not be eerie.

4.0 ORIENTATION

- 4.1 The title scene fades out and we fade in on historic footage of dedication ceremony at Headquarters Building (laying the corner stone) on 3 November 1959. Then begin series of stock scenes which depict the state of the art of space flight in the 1957-1960 period.

Now begins the voice of a professional narrator, "About the time CIA's Headquarters Building was begun, Project CORONA was born. It was decided that the photographic sub-system of the Air Force's WS-117L, offering the best prospect for early success, be placed under joint CIA-Air Force management--an approach that had been highly successful in covertly developing and operating the U-2. The splitting off of CORONA from WS-117L was accomplished on 28 February 1958 by a

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Might possibly refer to the fact that
General Ritland's immediate boss,
General Bernie Schriever, (Commander, *BMD*,
~~ARDC~~ ~~later AFSC~~) cooperated in the
BMD (later SSD) support to the joint
project.

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directive of the newly formed Advanced Projects Agency which had been granted authority over all military space projects. Meanwhile America's space capability was advancing under the highest priority. "

- 4.2 Assuming there is no stock footage available (none is known at this time) the next sequence fades into still photographs of Richard Bissell and Brigadier General Osmund Ritland.

"The CORONA Development Projects Staff was formed under the direction of Richard Bissell, then Special Assistant to the Director of Central Intelligence for Plans and Development. His Air Force counterpart was Brigadier General Osmund Ritland, who had served on the U-2 program under Bissell.

ILLEGIB

- 4.3 The next sequence shows Richard Bissell and Dr. Edwin Land in Dr. Land's office. They are talking about the early days of the program.

NOTE: We hear Bissell's and Land's conversation low under narration and then up full. What they say will, of course, be their own words. Ideas expressed here are only for the purpose of suggesting a continuity and a few key points.

The narrator says that Richard Bissell heard about the new program in "an odd and informal way."

We hear Bissell telling the story in his own words--that he heard from Land in a conversation like this one. Land tells what he remembers and then they exchange remembrances of the program in its early days. Bissell brings out that none of the funds for the new program were to come out of monies authorized for Air Force Programs and led to a misunderstanding that required CIA to go back to the President to seek additional funds.

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Next Dr. Land tells about his role in the plans for CORONA, a natural follow-on to his work on OXCART. Both men bring out what influenced the decision for a system of physical film recovery.

The narrator comes in to say that history would show that it was a wise decision. At this point in time we can see that the state of the read-out art, proposed as the main concept of WS117L, was not yet up to its later expectations. Thus CORONA filled the gap during the crucial decade of the sixties. It should also be noted that all manned and unmanned U.S. space recovery systems benefited from CORONA-developed re-entry technology.

- 4.4 Now begins a sequence of model animation demonstrating the basic concept of CORONA based on COR-7056-69 (Ascent and Recovery).

The narrator says that CORONA's concept was unique at the time. The plan called for launch by a THOR IRBM first stage and a Lockheed-modified rocket engine called "HUSTLER" after its original development by Bell Aircraft for use on the B-58. Later it was known as the AGENA. The payload was spin stabilized with the camera scanning as the payload rotated.

"After the reconnaissance mission, upon transmission of signals carried in memories or from the ground, the satellite would despin, rotate and separate its nose cone for re-entry. At the appropriate altitude, the nose cone is jetisoned and parachutes deploy for pick-up of the film "package" by aircraft equipped with special harness equipment."

5.0 EARLY PROGRAM HIGHLIGHTS

- 5.1 The film dissolves to a dusk scene at San Mateo, California at Building where representatives met late in March 1958. This must be filmed but can be given historical perspective in the way photography is handled. It is not meant to be a literal

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General Andrew J. Goodpaster (Special Assistant to President Eisenhower) was very active in liaison capacity with CIA--e.g., the CORONA project plan was delivered to him at the White House and he discussed it with the President and later informed Mr. Bissell by phone that the President had given approval in principle to the project.

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re-creation of the event, but add a documentary flavor.

Narration brings out that the CORONA program got under way in March 1958 at a three day conference in San Mateo, California among CIA, Air Force Ballistic Missile Division, Lockheed, General Electric and Fairchild. The meeting brought out that while plans for a design were under way it was far from complete and there was an urgent need for funding.

- 5.2 Next is a montage of old drawings, still photographs, etc. which helps evolve the shape and form of CORONA.

Narration brings out that within weeks formal approval and funding was obtained and the program got underway in earnest. Soon major complications arose over design of the camera and interest shifted to a competitive design submitted by ITEK Corporation. It was a difficult decision because it meant turning to a new and untried method of stabilization. Bissell personally decided in favor of the ITEK design. Bissell's first project proposal was submitted on 9 April 1958.

- 5.3 Aerial views of the White House begin the sequence followed by stock footage of President Eisenhower at his desk followed by any available historical papers connected with the program.

Narration brings out that the final project proposal was forwarded to the White House on 16 April 1958. The proposal was approved, although not in writing, formally. The only record of the President's approval reportedly was on the back of an envelope.

- 5.4 Now begins a montage of whatever old footage is available showing the development of CORONA components.

"The schedule for CORONA called for a countdown beginning the first of July 1958 and extending for 19 weeks. There was no expectation that the CORONA project would still be operating more than a decade later. It was intended as OXCART, to be a "high risk development to meet the intelligence community's need for area search photo reconnaissance."

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"The often vague responsibilities assigned to project personnel offered no appreciable difficulties in the early years of CORONA. The shared goals and motivation to produce as "promised" overshadowed any parochial interests. Later friction did arise between CIA and the Air Force over administrative control of the program."

5.5 Now we return to a close-up of Richard Bissell.

He paraphrases his earlier statement:

"The program was started in a marvelously informal manner. Things were extraordinarily cooperative between the Air Force and CIA. Almost all of the people involved on the Government side were more interested in getting a job done than in claiming credit or control."*

*CORONA HISTORY, Volume 1,
page 14 (excerpted, not literal)

5.6 The film dissolves to a continuation of development scenes showing increasing sophistication.

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"But that is not to say that CORONA was without its problems. CORONA was conceived as a covert program. The international climate at the time demanded the cloak of secrecy."

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"Further the program was separated into two distinct and ostensibly unrelated series: one identified as DISCOVERER and the other as SENTRY, later known as SAMOS."

6.0 HARD TIMES

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- 6.1 The next sequence shows stock footage of Cooke Air Force Base including THOR facilities circa 1958. We should see handling of pre-launch activities.

"The photo reconnaissance mission of CORONA necessitated a near-polar orbit but few of the possible sites could be used without danger of debris falling on populated areas. Cooke Air Force Base near California's Point Arguello was the natural choice--the right geography, a THOR missile squadron, nearby personnel resources and access to the most favorable ocean recovery area. The name of Cooke was changed to Vandenberg Air Force Base in 1958 and preparations begun to develop it as launch site for CORONA's THOR-AGENAs.

- 6.2 Now begins a DISCOVERER sequence utilizing whatever footage can be assembled (GE stock) and the failure of 21 January 1959 and the launch of DISCOVERER I on 28 February.

"CORONA's success was not to come easily. These were days of the space pioneers, where the solution to last month's failure only surfaced new problems for which engineering solutions must be found today. And there was little time to ponder the optimized solution. Predictably, much of the early effort ended in failure. The first flight test of a THOR-AGENA was scheduled for 21 January 1959 but a test of its hydraulic system an hour before launch, unaccountably triggered explosion of its ullage rockets, collapsing the mating structure and aborting the launch. On 28 February the first actual launch came. Labeled as DISCOVERER I it was the first test of the THOR-AGENA but somehow the antennas were damaged during separation and no data was ever received except ☐ evidence that it got into orbit.

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- 6.3 Now begins a re-enactment of the "ping pong" story.

"The first successful launch uncovered a security problem. There was a need for an on-pad payload cover. While design of a frangible shroud was eventually completed, the interim solution called for a brown paper cover and ping pong balls attached by piano wire--the theory being that the balls would rip the paper away as the vehicle gained speed. The test

6.3 (CONTINUED)

sports car on the Bayshore Freeway. Unfortunately, the highway patrol responded with a speeding ticket for the test engineer, and this design was phased out after one flight.

- 6.4 The next sequence begins with a zoom back from models of launch vehicles to show Mr. Carl Duckett in his Conference Room near the models. He picks up one and uses it to make a point. There are inter-cuts of him and the models.

Now begins synchronous sound of Carl Duckett. Among the points he brings out are the following: "There were fully thirteen launches of the first Agency-sponsored satellite system before a single piece of film was recovered. And if you'd picture today any space program where any boss would be willing to keep firing round after round and nothing coming back, but Mr. Dulles and Mr. McCone considered this was just too important not to do and so you keep straining until you make it go.

"CORONA was envisioned as a system largely for search purposes--going out to find new things that were going on in the Soviet Union and in China. As a result it did not have the resolution one would like to have to see details of a given target."*

"Bear in mind that without film recovery, high resolution search and surveillance would not have been possible in the 1960's. But another important decision was the radically new panoramic camera design. The basic concept had been developed by a spin off group from Boston University who founded a new corporation called Itek. "*"

NOTE: He describes the basic camera system and satellite methodology.

- 6.5 Now begins a full development (if footage available) of the launch sequence of DISCOVERERS I through XI.

The narrator continues at this point, "It was a long 18 months between the DISCOVERER I launch and DISCOVER XIV in August 1960. The missile gap controversy had reached a boiling

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6.5 (CONTINUED)

point. Beginning in February 1959 and extending through June 1960 an even dozen launches were attempted, with eight of the vehicles carrying cameras, and all of them failures and no film capsules were recovered from orbit.

- 6.6 A quick-cut sequence depicting the failures of DISCOVERER I-XII: still pictures, motion picture clips--whatever is available including the search near Spitsbergen, furor over "fatal mice flight", launch vehicle failures (including pictures of debris), and copies of failure reports.

Narration continues, outlining the early history of failures. The first aborted on the launch pad. The second was silent. Three others failed to achieve orbit. Two went into highly eccentric, unusable orbits. One capsule ejected prematurely. Two cameras operated briefly--then failed and one failed entirely. Another had a retro-rocket malfunction and one failed to work because of low spacecraft temperature. The year 1959 and first half of 1960 were bleak indeed.

- 6.7 Here is a short segment depicting the "missile gap" controversy--perhaps John F. Kennedy's speech (said to exist on film).

We hear John F. Kennedy telling about the then current missile crises.

7.0 SUCCESS AT LAST

- 7.1 The film dissolves to close-up of the NIE on Guided Missiles for the year 1959 with the title prominent. Double printed over this is stock footage of Russian missile scenes: parades, etc.

The Central Intelligence Agency's National Intelligence Estimate for guided missiles for the year 1959 contained footnotes by both the Army and Air Force intelligence agencies taking issue with CIA's estimate of Soviet missile strength. The discrepancies emphasized the need for hard intelligence. The U-2 had improved knowledge of the Soviet Union but the answers to the critical questions went unanswered.

- 7.2 Here begins a montage of scenes depicting the success of DISCOVERER XII. We see stills photographs and, finally, President Eisenhower displaying it.

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7.2 (CONTINUED)

Then on 10 August 1960 the diagnostic flight XIII was successfully inserted into orbit. On the 17th orbit, the recovery package ejected, retro-fired and descended normally, except for missing its intended impact point by 313 miles. Although beyond the range of recovery aircraft, DISCOVERER XIII's capsule splashed down near enough for a water recovery. For the first time ever, man had orbited an object in space and recovered it according to plan. Although the capsule carried no film, we had proved the ability to do it and beat the Russians in their similiar SPUTNIK V, dog-carrying capsule, by just 9 days. Indeed Corona had paved the way--through it's back-up technology--for splash-down recovery of the U.S. Man-in-Space program missions.

7.3 The film dissolves to a launch sequence of DISCOVERER XIV on 18 August 1960.

Narration continues by saying that just 8 days after this first success, DISCOVERER XIV was successfully launched. It carried a 20 pound film pay load. The camera operated satisfactorily, the full load of film was exposed, transferred to the recovery capsule and positioned for re-entry. The mission had been a "cliff-hanger" from the start but on the 17th orbit the film capsule's parachute bloomed over the Pacific and was recovered by air snatch. However, the spectacular success of DISCOVERER XIV was not taken to mean that problems with the system were at an end.

7.4. Now begins a "dialogue among Jim Plummer (LMSC), John Wolfe (ITek), Mark Morton (GE) and Ed Green (EK). Each is seen in a suitable setting--spacecraft assembly area, optical shop, test facility, laboratory or where ever is appropriate. Although the men are filmed at widely separate places, the editing gives the sequence the look of a live dialogue by intercutting their comments as if they could discuss this way.

NOTE: Again the participant's comments will be their own. Inserts included here are merely to suggest subject areas and the types of comments solicited.

"The early spin-despin rockets used to stabilize the recovery vehicle during re-entry had a tendency to explode rather than merely to fire. Several had blown up in ground tests. A solution was found in substituting cold gas spin and despin rockets."

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7.4 (CONTINUED)

"In regard to the recovery system, part of the difficulty lay in weak chutes and rigging and in crew inexperience; however, the most serious problem was the fast drop rate of chutes. Fortunately, by the time space hardware was ready, a parachute had been developed with a sink rate low enough to offer a reasonable chance for air recovery."

"The camera system operated without pressurization to conserve weight but as a result of the space environment (weightlessness) the acetate base film being used at first was tearing or breaking, causing the camera to jam. A solution for this problem was found by substituting polyester for acetate base film. The importance to the reconnaissance programs of this achievement by Eastman Kodak in film technology cannot be overemphasized. It ranks on a level like that of the development of the film recovery capsule itself."

8.0 EVOLUTION OF CORONA

8.1 Now begins a series of model animation scenes depicting the changing CORONA technology beginning with the C' (prime) configuration and following with the C''' (triple prime). Inter-cut as appropriate, actual aerial recovery scenes and still photographs.

The narrator says that after the success of DISCOVERER XIV, four more cameras were launched in the next four months with one success and three failures. The first ten camera-equipped vehicles had carried the C camera but beginning with DISCOVERER XVI a new series known as C Prime began. In appearance it differed little from the first but began paving the way for new camera concepts.

Going on to August 1961, a total of 17 camera-carrying CORONA missions had been attempted, and usable photography had been recovered from four of them. An appreciation of the capacity of the CORONA camera to photograph large areas of the earth's surface can be gotten from the fact that just four successful missions had yielded plottable coverage of some 13 million square miles.

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8.1 (CONTINUED)

The first substantial upgrading of the CORONA camera system came with the introduction in August 1961 of the C Triple Prime camera. Like the earlier C camera, the C Tripple Prime used a unique method of image motion compensation. The new camera was a reciprocating camera with a rotating lens cell. It had a larger aperature lens and an improved film transport plus a greater flexibility in command of the camera.

Then in August 1961 a major development program to develop a much better camera system was undertaken..It became known as MURAL and consisted of two C Prime Cameras pointing in slightly different axes. Separate film webs fed each camera and were taken up in the recovery vehicle on a double spool. The MURAL concept involved photographing each swath area twice. The forward looking camera first photographed the swath at an angle of 15 degrees from vertical. About half a dozen frames later, the backward looking camera photographed the same swath, thus providing stereo or "three dimensional" views of each frame.

8.2 The film dissolves to a re-enactment of the "sink valve salt plug" story using the old bathtub and "hand carried" sea water from Half Moon Bay.

Recovery capsules were designed to float for a period of time and then sink if not recovered as a security precaution. The duration was controlled by a salt plug which dissolved in sea water. But in order to prove its reliability tests were made in an old bath tub with sea water. At first the tub was easily filled by driving a pick-up truck of drums to and from the test site but the dock owner chased off the experimenters who were "pilfering" his water. Thereafter water had to be obtained by hand carrying drums on a perilous path. Once a barrel-carrier stumbled but survived to be chided for "throwing himself into his work."

8.3 Now begins aerials of the Itek facilities, followed by interior scenes depicting the development of the cameras.

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8.3 (CONTINUED)

The narrator at this point outlines the role of Itek Corporation in the development of Corona systems and how the early successes signalled an extension and development of the J series cameras.

- 8.4 The film dissolves to another model animation sequence depicting the launch, operation and recovery of the J-3. Intercut are actual launch sequence scenes.

Narration brings out that CORONA reached maturity with the development of the J series systems. The new modifications retained the MURAL stereoscopic camera concept but added a second film capsule and recovery vehicle. The recovery vehicles called "buckets" could be stored in orbit for up to 21 days, permitting recovery of the first bucket after half the film had been exposed. The second could be started on command.

- 8.5 Next we see still photographs and any available live photography telling the story of Program Flight Number 78 (inadvertently landed in Venezuela).

However, the J series development was not without its failures even though by now the success of the missions was commonplace. The most spectacular mission failure began with a launch on 27 April 1964. The master panoramic camera operated satisfactorily through the filling of the first bucket but the slave panoramic camera failed when the film broke. Then the AGENA power supply failed. The space vehicle repeatedly verified receipt of commands but the ejection sequence did not occur. The mission was stopped with conclusion that the vehicle would burn on re-entering the earth's atmosphere.

But then on 1 August 1964 a commercial photographer named Leonardo Davila telephoned the American embassy in Caracas, to report that he had photographed a space satellite that had fallen in Venezuela. On July 7 two villagers had discovered a glimmering gold object near the village of La Fria in southwestern Venezuela. It was the capsule from

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8.5 (CONTINUED)

Mission 78. The USAF bought the crumpled specimen from the Venezuelan Government and quietly dismissed the event as an unimportant NASA space experiment gone astray. The story rated a scant dozen lines in the New York Times but the local Venezuelan press had a field day.

9.0 RESULTS

- 9.1 The film now dissolves to a successful air snatch recovery and then shows the exposed film being transported to Westover. We see aerials of Westover followed by scenes depicting the processing of the film.

The narration describes the transport and processing of exposed films.

- 9.2 The film dissolves to a sequence showing the progression of image improvement with each generation of CORONA development.

The narrator says that each new generation of CORONA imagery yielded better photographic intelligence and higher reliability. Target images of 25 foot minimum resolution on the earlier C cameras improved until resolutions of a few feet were recorded with the J-3 system.

- 9.3 The film dissolves to NPIC ceremony awarding a "bucket trophy" to Art Lundahl. There are close-ups of Lundahl as he speaks.

This sequence begins with a few words from the presentation and then the dialogue fades under the narrator saying, that the important thing about CORONA is its impact on hard intelligence through improved photographic interpretation.

Next we hear excerpts from Lundahl's comments which explains what CORONA did for the photographic interpreters output.

- 9.4 Next the film dissolves to the launch of the last CORONA launch in 1972.

By the time CORONA reached its end with launch of the 145th mission on 25 May 1972, the program had a long list of "firsts" to its

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9.4 (CONTINUED)

credit, among them : the world's first recovery from space and the first multiple recovery system. CORONA's 167 successful recoveries are more than the total of all the other United States programs combined. There were also firsts in spacecraft controls and ,last but not least, the first photography from space.

CORONA provided photographic coverage of over 500,000,000 square nautical miles of the earth's surface--a dramatic achievement in itself. But the true importance in National Security came from the intelligence --from lifting the curtain of secrecy which surrounded the Soviet Union. In contrast to the frustration which existed in the intelligence community at the POINT IN TIME when CORONA was undertaken in 1957, we had by 1964 photographed all of the Soviet ICBM complexes then in existence. The value of CORONA to the United States intelligence effort is given dimension by this statement in the Agency's 1968 Estimate,"no new ICBM complexes have been established in the USSR during the past year."

10.0 SUMMARY & CONCLUSION

10.1 The film dissolves to newsreels of SALT talks, Nixon's visit to Soviet Union, etc.

CORONA coverage of the Middle East during the June 1967 war was of great value in estimating the relative military strengths of the opposing sides after the short combat period.

The contribution of CORONA between 1960 and 1970 can be summarized by saying it made possible for the President in office to react more wisely to crucial international situations at a point-in-time of critical balance between peace and war.

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10.1 (CONTINUED)

It has been confidence in the intelligence estimates that has allowed President Nixon to enter into the Strategic Arms Limitation Talks and to sign the Arms Limitation Treaty in October 1972. There can be no doubt of the role CORONA played in verification for SALT.

10.2 Now begins a fast montage of high points in the CORONA story.

Looking back on CORONA, it is not always easy to keep in mind that it was merely an assemblage of inanimate objects designed and put together to perform a mechanical task. The program began as a short-term interim system, suffered through adversity and then survived for a "glorious decade."

CORONA is now history. It stands as an important POINT IN TIME--the first, the longest and the most successful of the nation's space recovery programs to date. CORONA explored and conquered the technological unknowns of space reconnaissance. It lifted the curtain of secrecy within the Soviet Union and Communist China and it opened the way for even more sophisticated follow-on satellite reconnaissance systems.

There were no elaborate facilities. ☐

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☐ The cost was modest and CORONA paid a huge dividend--vital intelligence at a very important POINT IN TIME.

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11.0 TITLES

11.1 End titles over color photographs from CORONA. The last scene repeats the main title, "A POINT IN TIME".

☐ SECRET

Chronology of Events - C Program and Related Activities

Date	Event
1956 July	AF initiated WS-117L contract with LMSD on basis of Rand study "Feed Back."
1957 Mar	Quarles named Dep Sec Def.
Oct	PFIAB asked for report on prospects for new recon capability (117-L or OX).
Oct	Sputnik I launched by Soviets (spent 3 mos. in orbit).
Nov	Sputnik II " " " " 5 " " "
8 Nov	Dr. James R. Killian appointed Spec. Asst. to DDE for S&T (sworn 16 Nov.).
19 Nov	RMB drafted reply to PFIAB (for AWD) on prospects for new recon system; described plans for OX.
1958 8 Jan	Gen. Bernard Schriever, CDR/BMD/ARDC, in closed session told Senate Preparedness Subc. he had go-ahead on program to launch earth satellite with recoverable capsule, using Thor booster. (This was interim plan to fill in until Sentinel program ready.) Portions of Schriever testimony made public 14 January 1958. Some time between December 1957 and February 1958, decision made to transfer management of the interim project to joint grp under Bissell/Ritland. Some people involved: Quarles, Richard Horner, Killian, Land, Schriever...
7 Feb	DOD Directive establishing ARPA gave it direction of advanced research and development in fields of space and technology; Dr. Roy W. Johnson, Director; Dr. Herbert York, Chief Scientist.
28 Feb	Dir/ARPA instructed Secty AF to cancel BMD interim Thor-boosted system and authorized use of balance of boosters for test on LMSC-developed Agena in furtherance of projected manned space exploration program.
24-26 Mar	Tech mtg at San Mateo with contractor reps (LMSC & subc. GE & FCIC) RMB and Ritland attending; Contract to be renegotiated, [redacted] negotiator.

[redacted] ILLEGIB

1.

try.

[redacted] ILLEGIB

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1958 Mar-Apr Competitive camera proposal by Itek (24-inch f/1) offered greater ground resolution--approx 20' compared to possible 40' of FCIC 6-in. f/1); decision made by RMB to shift to Itek.

1 Apr [REDACTED] 25X1

1 Apr RMB title changed to Spec. Asst. for Planning and Development.

15 Apr C project outline with revised specs completed by RMB; approval in principle obtained from ARPA, AF, and Dr. Killian.

16 Apr C project outline delivered to Gen. Goodpaster at WH for clearing with DDE. Gen. Goodpaster reported approval in principle by Pres. later on the 16th.

25 Apr AWD approved drawing [REDACTED] from Reserve for FY 1958 costs for C. 25X1

29 Apr Letter contract with LMSC signed for first 12 C's.

5 May Itek subcontract to FCIC for building HYAC II panoramic signed. 25X1

23 June Initial C security plan issued to staff and contractors (later revised to attempt to separate its purpose from the balance of 117L program.

25 June RMB brought to Roy Johnson's attn. need for addtl. funds in view of prhhibition by WH against use of AF funds; [REDACTED] for each of 12 Thor boosters then devolved on ARPA, causing big budgeting problems.

1 Aug 6593rd Test Squadron activated to deploy to Hickam for duty (beginning of Pacific Recovery Forces).

8 Aug Meeting on funding of C and 117L with Stans (BOB), Quarles (DOD), and Killian (WH); RMB instructed to prepare revised cost estimates.

A protracted review of both projects ensued with numbers of individuals and organizations becoming involved. Robert Macy of BOB was particularly difficult to satisfy on program cost estimates. DOD program estimates

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25X1 1959 3 June DISC III (live mice) Agena failed, down in Pacific.
25X1 23 June [] replaced [] as Chief, Contr Br, DPD.
25 June DISC IV w/1st C payload; Agena failed to orbit.
Jun-Jul At Gen. Ritland's request [] performed special inde- 25X1
pendent analysis on basic specs and performance of C vehicle;
recommended added velocity through weight reduction and increased thrust.
25X1 7 July [] effort for Army Map Service added under cover of C; WH approved.
26 July Second C contract with LMSC for 8 systems (C').
13 Aug DISC V - orbited but cold temp problem; camera failure; no recovery.
19 Aug DISC VI - retro rocket malfunction and camera failure on 2nd rev; no recovery
24 Sept Reorganization of space program gave USAF prime role in military space;
ARPA relinquished supervision of development of C vehicle.
7 Nov DISC VII - Agena unstable, no recovery.
20 Nov DISC VIII - Eccentric orbit; instrument failure, no recovery.
30 Nov Meeting w/BMD. Schriever/Ritland wanted stand-down and investigation on
failures from 5 through 8. A black picture painted by Schriever/Ritland
with regard to probability of getting funds to continue program in view
of record. RMB, however, felt that higher authority would go along with
continuing program through 1960 because there was so much at stake.
1960 12 Jan Thomas S. Gates appointed SecDef by DDE.
4 Feb DISC IX - Agena failed to orbit.
19 Feb DISC X - Agena failed to orbit
15 Apr DISC XI - Spin rocket failure, no recovery, but camera operation o.k.
7 June Third contract with LMSC for C procurement (6 addtl C''' systems).

1960 28 June USIB approved minimum standards for desirable resolutions from sat. photography; resulted in the later cancellation of the AF SENTINEL/SAMOS; AF then turned to "spotting" systems.

29 June DISC XII - diagnostic (no C carried) Agena failed to orbit.

10-11 Aug DISC XIII - first successful retrieval of nosecone from orbit (in the water), no C carried.

18-19 Aug DISC XIV, first successful air-catch, camera operated; first payload return.

13 Sept DISC XV, returned at bad angle; sank before recovery.

26 Oct DISC XVI, Agena B failed to orbit.

12-14 Nov Second successful airsnatch (partial payload success).

7-10 Dec Third successful airsnatch (payload o.k.).

1961 20 Jan JFK took office; new Cabinet and Sub-cabinet members (including: Rusk, Bowles at State, and McNamara, Gilpatric, and Nitze at Defense). McGeorge Bundy at White House, with WW Rostow as Deputy).

19 Mar ARDC became AFSC; Schriever, CDR; Ritland, CDR/SSD.

20 Mar Fourth procurement of C systems (6 additional C's - later increased to 22 systems in 1962).

4 May Dr. Killian named Chairman, PFIAB, by JFK.

3-4 June Kennedy Khrushchev Meeting, Vienna.

Aug Berlin Crisis. On 31 August USSR announced its unilateral breaking of test ban moratorium & resumption of nuclear testing.

6 Sept Initial agreement for an NR PLAN signed.

9 Sept USAF's third unsuccessful SAMOS exploded on ground; program phased out.

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1961	12 Sept	First successful airsnatch of C, using C-130.
	29 Nov	AWD retired (he had served as DCI from 26 Feb 1953). Died 29 Jan. 1969. (John A. McCone appointed by JFK, serving until 28 April 1965.)
1962	13 Jan	Last DISC (listed as XXXVII) on which story hand-out was made to press by USAF. DOD (Gilpatric) Directive then took effect whereby all information re firings held classified.
	31 Jan	Gen. C. P. Cabell retired (served as DDCI from 23 April 1953).
	17 Feb	RMB resignation effective.

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